



6560-50-P

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA-R03-OAR-2017-0615; FRL-9980-65-Region 3]

#### **Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; Attainment Plan for the Indiana, Pennsylvania Nonattainment Area for the 2010 Sulfur Dioxide Primary National Ambient Air Quality Standard**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve a state implementation plan (SIP) revision, submitted by the Commonwealth of Pennsylvania through the Pennsylvania Department of Environmental Protection (PADEP), to EPA on October 11, 2017, for the purpose of providing for attainment of the 2010 sulfur dioxide (SO<sub>2</sub>) primary national ambient air quality standard (NAAQS) in the Indiana, Pennsylvania SO<sub>2</sub> nonattainment area (hereafter referred to as the “Indiana Area” or “Area”). The Indiana Area is comprised of Indiana County and a portion of Armstrong County (Plumcreek Township, South Bend Township, and Elderton Borough) in Pennsylvania. The major sources of SO<sub>2</sub> in the Indiana Area emitting over 2,000 tpy of SO<sub>2</sub> include several large electric generating units (EGUs): Keystone Plant, Conemaugh Plant, Homer City Generation, and Seward Generation Station (hereafter referred to as “Keystone,” “Conemaugh,” “Homer City,” and “Seward”). The SIP submission is an attainment plan which includes the base year emissions inventory, an analysis of the reasonably available control technology (RACT) and reasonably available control measure (RACM) requirements, enforceable emission limitations and control measures, a reasonable

further progress (RFP) plan, a modeling demonstration of SO<sub>2</sub> attainment, and contingency measures for the Indiana Area. As part of approving the attainment plan, EPA is also proposing to approve into the Pennsylvania SIP SO<sub>2</sub> emission limits and associated compliance parameters for Keystone, Conemaugh, Homer City and Seward and proposes to find Pennsylvania has measures in place to address nonattainment new source review. EPA proposes to approve Pennsylvania's attainment plan and concludes that the Indiana Area will attain the 2010 1-hour primary SO<sub>2</sub> NAAQS by the applicable attainment date and that the plan meets all applicable requirements under the Clean Air Act (CAA).

**DATES:** Written comments must be received on or before **[insert date 30 days after date of publication in the Federal Register]**.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R03-OAR-2017-0615 at <http://www.regulations.gov>, or via email to [spielberger.susan@epa.gov](mailto:spielberger.susan@epa.gov). For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. For either manner of submission, EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the "For Further Information Contact" section. For the full EPA

public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION CONTACT:** Megan Goold, (215) 814-2027, or by e-mail at [goold.megan@epa.gov](mailto:goold.megan@epa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Table of Contents**

- I. Background for EPA's Proposed Action
- II. Pennsylvania's Attainment Plan Submittal for the Indiana Area
- III. EPA's Analysis of Pennsylvania's Attainment Plan for the Indiana Area
  - A. Pollutants Addressed
  - B. Emissions Inventory Requirements
  - C. Air Quality Modeling
  - D. RACM/RACT
  - E. RFP Plan
  - F. Contingency Measures
  - G. New Source Review
- IV. EPA's Proposed Action
- V. Incorporation by Reference
- VI. Statutory and Executive Order Reviews

### **I. Background for EPA's Proposed Action**

On June 2, 2010, the EPA Administrator signed a final rule establishing a new primary SO<sub>2</sub> NAAQS as a 1-hour standard of 75 parts per billion (ppb), based on a 3-year average of the annual 99th percentile of daily maximum 1-hour average concentrations. *See* 75 FR 35520 (June 22, 2010), codified at 40 CFR 50.17. This action also revoked the existing 1971 primary annual and 24-hour standards, subject to certain conditions.<sup>1</sup> EPA established the NAAQS based on

---

<sup>1</sup> EPA's June 22, 2010 final action revoked the two 1971 primary 24-hour standard of 140 ppb and the annual standard of 30 ppb because they were determined not to add additional public health protection given a 1-hour

significant evidence and numerous health studies demonstrating that serious health effects are associated with short-term exposures to SO<sub>2</sub> emissions ranging from five minutes to 24 hours with an array of adverse respiratory effects including narrowing of the airways which can cause difficulty breathing (bronchoconstriction) and increased asthma symptoms. For more information regarding the health impacts of SO<sub>2</sub>, please refer to the June 22, 2010 final rulemaking. *See* 75 FR 35520. Following promulgation of a new or revised NAAQS, EPA is required by the CAA to designate areas throughout the United States as attaining or not attaining the NAAQS; this designation process is described in section 107(d)(1)-(2) of the CAA. On August 5, 2013, EPA promulgated initial air quality designations for 29 areas for the 2010 SO<sub>2</sub> NAAQS (78 FR 47191), which became effective on October 4, 2013, based on violating air quality monitoring data for calendar years 2009–2011, where there were sufficient data to support a nonattainment designation.<sup>2</sup>

Effective on October 4, 2013, the Indiana Area was designated as nonattainment for the 2010 SO<sub>2</sub> NAAQS for an area that encompasses the primary SO<sub>2</sub> emitting sources of Keystone, Conemaugh, Homer City, and Seward. The October 4, 2013 final designation triggered a requirement for Pennsylvania to submit by April 4, 2015, a SIP revision with an attainment plan for how the Area would attain the 2010 SO<sub>2</sub> NAAQS as expeditiously as practicable, but no later than October 4, 2018, in accordance with CAA sections 172(c) and 191-192.

---

standard at 75 ppb. *See* 75 FR 35520. However, the secondary 3-hour SO<sub>2</sub> standard was retained. Currently, the 24-hour and annual standards are only revoked for certain of those areas the EPA has already designated for the 2010 1-hour SO<sub>2</sub> NAAQS. *See* 40 CFR 50.4(e).

<sup>2</sup> EPA is continuing its designation efforts for the 2010 SO<sub>2</sub> NAAQS. Pursuant to a court-order finalized March 2, 2015, in the U.S. District Court for the Northern District of California, EPA must complete the remaining designations for the rest of the country on a schedule that contains three specific deadlines. *Sierra Club, et al. v. Environmental Protection Agency*, 13–cv–03953–SI (2015).

For a number of areas, including the Indiana Area, EPA published a notice on March 18, 2016, effective April 18, 2016, that Pennsylvania and other pertinent states had failed to submit the required SO<sub>2</sub> attainment plan by this submittal deadline. *See* 81 FR 14736. This finding initiated a deadline under CAA section 179(a) for the potential imposition of new source review and highway funding sanctions. However, pursuant to Pennsylvania's submittal of October 11, 2017, and EPA's subsequent letter dated October 13, 2017, to Pennsylvania finding the submittal complete and noting the stopping of the sanctions' deadline, these sanctions under section 179(a) will not be imposed as a consequence of Pennsylvania having missed the April 4, 2015 deadline. Additionally, under CAA section 110(c), the March 18, 2016, finding triggered a requirement that EPA promulgate a federal implementation plan (FIP) within two years of the effective date of the finding unless, by that time, the state has made the necessary complete submittal and EPA has approved the submittal as meeting applicable requirements. This FIP obligation will no longer apply if and when EPA makes final the approval action proposed here.

Attainment plans must meet the applicable requirements of the CAA, and specifically CAA sections 172, 191, and 192. The required components of an attainment plan submittal are listed in section 172(c) of Title 1, part D of the CAA. EPA's regulations governing nonattainment SIPs are set forth at 40 CFR part 51, with specific procedural requirements and control strategy requirements residing at subparts F and G, respectively. Soon after Congress enacted the 1990 Amendments to the CAA, EPA issued comprehensive guidance on SIPs, in a document entitled the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," published at 57 FR 13498 (April 16, 1992) (General Preamble). Among other things, the General Preamble addressed SO<sub>2</sub> SIPs and fundamental principles for SIP control strategies. *Id.* at 13545-49, 13567-68.

On April 23, 2014, EPA issued recommended guidance (hereafter 2014 SO<sub>2</sub> Nonattainment Guidance) for how state submissions could address the statutory requirements for SO<sub>2</sub> attainment plans.<sup>3</sup> In this guidance, EPA described the statutory requirements for an attainment plan, which include: an accurate base year emissions inventory of current emissions for all sources of SO<sub>2</sub> within the nonattainment area (172(c)(3)); an attainment demonstration that includes a modeling analysis showing that the enforceable emissions limitations and other control measures taken by the state will provide for expeditious attainment of the NAAQS (172(c) and (c)(6)); demonstration of RFP (172(c)(2)); implementation of RACM, including RACT (172(c)(1)); new source review (NSR) requirements (172(c)(5)); and adequate contingency measures for the affected area (172(c)(9)). A synopsis of these requirements is also provided in the notice of proposed rulemaking on the Illinois SO<sub>2</sub> nonattainment plans, published on October 5, 2017 at 82 FR 46434.

In order for the EPA to fully approve a SIP as meeting the requirements of CAA sections 110, 172 and 191-192 and EPA's regulations at 40 CFR part 51, the SIP for the affected area needs to demonstrate to EPA's satisfaction that each of the aforementioned requirements have been met. Under CAA sections 110(l) and 193, the EPA may not approve a SIP that would interfere with any applicable requirement concerning NAAQS attainment and RFP, or any other applicable requirement, and no requirement in effect (or required to be adopted by an order, settlement, agreement, or plan in effect before November 15, 1990) in any area which is a nonattainment area for any air pollutant, may be modified in any manner unless it ensures equivalent or greater emission reductions of such air pollutant.

---

<sup>3</sup> See "Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions" (April 23, 2014), available at [https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance\\_nonattainment\\_sip.pdf](https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf).

CAA section 172(c)(1) directs states with areas designated as nonattainment to demonstrate that the submitted plan provides for attainment of the NAAQS. 40 CFR part 51, subpart G further delineates the control strategy requirements that SIPs must meet, and EPA has long required that all SIPs and control strategies reflect four fundamental principles of quantification, enforceability, replicability, and accountability (General Preamble, at 13567-68). SO<sub>2</sub> attainment plans must consist of two components: (1) emission limits and other control measures that assure implementation of permanent, enforceable and necessary emission controls, and (2) a modeling analysis which meets the requirements of 40 CFR part 51, Appendix W which demonstrates that these emission limits and control measures provide for timely attainment of the primary SO<sub>2</sub> NAAQS as expeditiously as practicable, but by no later than the attainment date for the affected area. In all cases, the emission limits and control measures must be accompanied by appropriate methods and conditions to determine compliance with the respective emission limits and control measures and must be quantifiable (a specific amount of emission reduction can be ascribed to the measures), fully enforceable (specifying clear, unambiguous and measurable requirements for which compliance can be practicably determined), replicable (the procedures for determining compliance are sufficiently specific and non-subjective so that two independent entities applying the procedures would obtain the same result), and accountable (source specific limits must be permanent and must reflect the assumptions used in the SIP demonstrations).

EPA's 2014 SO<sub>2</sub> Nonattainment Guidance recommends that the emission limits established for the attainment demonstration be expressed as short-term average limits (e.g., addressing emissions averaged over one or three hours), but also describes the option to utilize emission limits with longer averaging times of up to 30 days so long as the state meets various suggested

criteria. *See* 2014 SO<sub>2</sub> Nonattainment Guidance, pp. 22 to 39. The guidance recommends that—should states and sources utilize longer averaging times—the longer term average limit should be set at an adjusted level that reflects a stringency comparable to the 1-hour average limit at the critical emission value shown to provide for attainment that the plan otherwise would have set.

The 2014 SO<sub>2</sub> Nonattainment Guidance provides an extensive discussion of EPA’s rationale for concluding that appropriately set comparably stringent limitations based on averaging times as long as 30 days can be found to provide for attainment of the 2010 SO<sub>2</sub> NAAQS. In evaluating this option, EPA considered the nature of the standard, conducted detailed analyses of the impact of 30-day average limits on the prospects for attaining the standard, and carefully reviewed how best to achieve an appropriate balance among the various factors that warrant consideration in judging whether a state’s plan provides for attainment. *Id.* at pp. 22 - 39, and Appendices B, C, and D.

As specified in 40 CFR 50.17(b), the 1-hour primary SO<sub>2</sub> NAAQS is met at an ambient air quality monitoring site when the 3-year average of the annual 99<sup>th</sup> percentile of daily maximum 1-hour average concentrations is less than or equal to 75 ppb. In a year with 365 days of valid monitoring data, the 99<sup>th</sup> percentile would be the fourth highest daily maximum 1-hour value. The 2010 SO<sub>2</sub> NAAQS, including this form of determining compliance with the standard, was upheld by the U.S. Court of Appeals for the District of Columbia Circuit in *Nat’l Envt’l Dev. Ass’n’s Clean Air Project v. EPA*, 686 F.3d 803 (D.C. Cir. 2012). Because the standard has this form, a single exceedance does not create a violation of the standard. Instead, at issue is whether a source operating in compliance with a properly set longer term average could cause exceedances, and if so the resulting frequency and magnitude of such exceedances, and in



particular, whether EPA can have reasonable confidence that a properly set longer term average limit will provide that the average fourth highest daily maximum value will be at or below 75 ppb. A synopsis of how EPA evaluates whether such plans “provide for attainment,” based on modeling of projected allowable emissions and in light of the NAAQS’ form for determining attainment at monitoring sites follows.

For SO<sub>2</sub> attainment plans based on 1-hour emission limits, the standard approach is to conduct modeling using fixed emission rates. The maximum modeled emission rate that results in attainment is labeled the “critical emission value.” The modeling process for identifying this critical emission value inherently considers the numerous variables that affect ambient concentrations of SO<sub>2</sub>, such as meteorological data, background concentrations, and topography. In the standard approach, the state would then provide for attainment by setting a continuously applicable 1-hour emission limit at this critical emission value.

EPA recognizes that some sources have highly variable emissions, for example due to variations in fuel sulfur content and operating rate, that can make it extremely difficult, even with a well-designed control strategy, to ensure in practice that emissions for any given hour do not exceed the critical emission value. EPA also acknowledges the concern that longer term emission limits can allow short periods with emissions above the “critical emission value,” which, if coincident with meteorological conditions conducive to high SO<sub>2</sub> concentrations, could in turn create the possibility of a NAAQS exceedance occurring on a day when an exceedance would not have occurred if emissions were continuously controlled at the level corresponding to the critical emission value. However, for several reasons, EPA believes that the approach recommended in its guidance document suitably addresses this concern. First, from a practical perspective, EPA

expects the actual emission profile of a source subject to an appropriately set longer term average limit to be similar to the emission profile of a source subject to an analogous 1-hour average limit. EPA expects this similarity because it has recommended that the longer term average limit be set at a level that is comparably stringent to the otherwise applicable 1-hour limit (reflecting a downward adjustment from the critical emissions value) and that takes the source's emissions profile (and inherent level of emissions variability) into account. As a result, EPA expects either form of emission limit to yield comparable air quality.

Second, from a more theoretical perspective, EPA has compared the likely air quality with a source having maximum allowable emissions under an appropriately set longer term limit, as compared to the likely air quality with the source having maximum allowable emissions under the comparable 1-hour limit. In this comparison, in the 1-hour average limit scenario, the source is presumed at all times to emit at the critical emission level, and in the longer term average limit scenario, the source is presumed occasionally to emit more than the critical emission value but on average, and presumably at most times, to emit well below the critical emission value. In an “average year,”<sup>4</sup> compliance with the 1-hour limit is expected to result in three exceedance days (i.e., three days with hourly values above 75 ppb) and a fourth day with a maximum hourly value at 75 ppb. By comparison, with the source complying with a longer term limit, it is possible that additional exceedances would occur that would not occur in the 1-hour limit scenario (if emissions exceed the critical emission value at times when meteorology is conducive to poor air quality). However, this comparison must also factor in the likelihood that exceedances that

---

<sup>4</sup> An “average year” is used to mean a year with average air quality. While 40 CFR 50 appendix T provides for averaging three years of 99<sup>th</sup> percentile daily maximum hourly values (e.g., the fourth highest maximum daily hourly concentration in a year with 365 days with valid data), this discussion and an example below uses a single “average year” in order to simplify the illustration of relevant principles.

would be expected in the 1-hour limit scenario would not occur in the longer term limit scenario. This result arises because the longer term limit requires lower emissions most of the time (because the limit is set below the critical emission value), so a source complying with an appropriately set longer term limit is likely to have lower emissions at critical times than would be the case if the source were emitting as allowed with a 1-hour limit.

To illustrate this point, EPA conducted a statistical analysis using a range of scenarios using actual plant data. The analysis is described in Appendix B of EPA's 2014 SO<sub>2</sub> Nonattainment Guidance. Based on the analysis described in its 2014 SO<sub>2</sub> Nonattainment Guidance, EPA expects that an emission profile with maximum allowable emissions under an appropriately set comparably stringent 30-day average limit is likely to have the net effect of having a *lower* number of exceedances and better air quality than an emission profile with maximum allowable emissions under a 1-hour emission limit at the critical emission value. This result provides a compelling policy rationale for allowing the use of a longer averaging period, in appropriate circumstances where the facts indicate this result can be expected to occur.

The question then becomes whether this approach, which is likely to produce a lower number of overall exceedances even though it may produce some unexpected exceedances above the critical emission value, meets the requirement in section 110(a)(1) and 172(c)(1) for SIPs to "provide for attainment" of the NAAQS. For SO<sub>2</sub>, as for other pollutants, it is generally impossible to design a nonattainment plan in the present that will guarantee that attainment will occur in the future. A variety of factors can cause a well-designed attainment plan to fail and unexpectedly not result in attainment, for example if meteorology occurs that is more conducive to poor air quality than was anticipated in the plan. Therefore, in determining whether a plan meets the requirement to

provide for attainment, EPA's task is commonly to judge not whether the plan provides absolute certainty that attainment will in fact occur, but rather whether the plan provides an adequate level of confidence of prospective NAAQS attainment. From this perspective, in evaluating use of a 30-day average limit, EPA must weigh the likely net effect on air quality. Such an evaluation must consider the risk that occasions with meteorology conducive to high concentrations will have elevated emissions leading to exceedances that would not otherwise have occurred, and must also weigh the likelihood that the requirement for lower emissions on average will result in days not having exceedances that would have been expected with emissions at the critical emissions value. Additional policy considerations, such as in this case the desirability of accommodating real world emissions variability without significant risk of violations, are also appropriate factors for EPA to consider when evaluating whether a plan provides a reasonable degree of confidence that the plan will lead to attainment. Based on these considerations, especially given the high likelihood that a continuously enforceable limit averaged over as long as 30 days, determined in accordance with EPA's guidance, will result in attainment, EPA believes as a general matter that such limits, if appropriately determined, can reasonably be considered to provide for attainment of the 2010 SO<sub>2</sub> NAAQS.

The 2014 SO<sub>2</sub> Nonattainment Guidance offers specific recommendations for determining an appropriate longer term average limit. The recommended method starts with determination of the 1-hour emission limit that would provide for attainment (i.e., the critical emission value), and applies an adjustment factor to determine the (lower) level of the longer term average emission limit that would be estimated to have a stringency comparable to the otherwise necessary 1-hour emission limit. This method uses a database of continuous emission data reflecting the type of control that the source will be using to comply with the SIP emission limits, which (if

compliance requires new controls) may require use of an emission database from another source. The recommended method involves using these data to compute a complete set of emission averages, computed according to the averaging time and averaging procedures of the prospective emission limitation (i.e., using 1-hour historical emission values from the emissions database to calculate 30-day average emission values). In this recommended method, the ratio of the 99<sup>th</sup> percentile among these long term averages to the 99<sup>th</sup> percentile of the 1-hour values represents an adjustment factor that may be multiplied by the candidate 1-hour emission limit (critical emission value) to determine a longer term average emission limit that may be considered comparably stringent.<sup>5</sup>

The 2014 SO<sub>2</sub> Nonattainment Guidance also addresses a variety of related topics, such as the potential utility of setting supplemental emission limits, such as mass-based limits, to reduce the likelihood and/or magnitude of elevated emission levels that might occur under the longer term emission rate limit.

Preferred air quality models for use in regulatory applications are described in Appendix A of the EPA's *Guideline on Air Quality Models (40 CFR part 51, appendix W)*.<sup>6</sup> In 2005, the EPA promulgated AERMOD as the Agency's preferred near-field dispersion modeling for a wide range of regulatory applications addressing stationary sources (for example in estimating SO<sub>2</sub> concentrations) in all types of terrain based on extensive developmental and performance evaluation. Supplemental guidance on modeling for purposes of demonstrating attainment of the SO<sub>2</sub> standard is provided in Appendix A to the 2014 SO<sub>2</sub> Nonattainment Guidance. Appendix A

---

<sup>5</sup> For example, if the critical emission value is 1000 pounds of SO<sub>2</sub> per hour, and a suitable adjustment factor is determined to be 70 percent, the recommended longer term average limit would be 700 pounds per hour.

<sup>6</sup> The EPA published revisions to the *Guideline on Air Quality Models* on January 17, 2017.

provides extensive guidance on the modeling domain, the source inputs, assorted types of meteorological data, and background concentrations. Consistency with the recommendations in this guidance is generally necessary for the attainment demonstration to offer adequately reliable assurance that the plan provides for attainment.

As stated previously, attainment demonstrations for the 2010 1-hour primary SO<sub>2</sub> NAAQS must demonstrate future attainment and maintenance of the NAAQS in the entire area designated as nonattainment (i.e., not just at the violating monitor) by using air quality dispersion modeling (*see* Appendix W to 40 CFR part 51) to show that the mix of sources and enforceable control measures and emission rates in an identified area will not lead to a violation of the SO<sub>2</sub> NAAQS. For a short-term (i.e., 1-hour) standard, the EPA believes that dispersion modeling, using allowable emissions and addressing stationary sources in the affected area (and in some cases those sources located outside the nonattainment area which may affect attainment in the area) is technically appropriate, efficient and effective in demonstrating attainment in nonattainment areas because it takes into consideration combinations of meteorological and emission source operating conditions that may contribute to peak ground-level concentrations of SO<sub>2</sub>.

The meteorological data used in the analysis should generally be processed with the most recent version of AERMET. Estimated concentrations should include ambient background concentrations, should follow the form of the standard, and should be calculated as described in section 2.6.1.2 of the August 23, 2010 clarification memo on “Applicability of Appendix W Modeling Guidance for the 1-hr SO<sub>2</sub> National Ambient Air Quality Standard” (U. S. EPA, 2010a).

## **II. Pennsylvania’s Attainment Plan Submittal for the Indiana Area**

In accordance with section 172(c) of the CAA, the Pennsylvania attainment plan for the Indiana Area includes: (1) an emissions inventory for SO<sub>2</sub> for the plan's base year (2011); and (2) an attainment demonstration. The attainment demonstration includes the following: Analyses that locate, identify, and quantify sources of emissions contributing to violations of the 2010 SO<sub>2</sub> NAAQS; a determination that the control strategy for the primary SO<sub>2</sub> sources within the nonattainment areas constitutes RACM/RACT; a dispersion modeling analysis of an emissions control strategy for the primary SO<sub>2</sub> sources (Keystone, Conemaugh, Homer City, and Seward), showing attainment of the SO<sub>2</sub> NAAQS by the October 4, 2018, attainment date; requirements for RFP toward attaining the SO<sub>2</sub> NAAQS in the Area; contingency measures; the assertion that Pennsylvania's existing SIP-approved NSR program meets the applicable requirements for SO<sub>2</sub>; and the request that emission limitations and compliance parameters for Keystone, Conemaugh, Homer City, and Seward be incorporated into the SIP.

### **III. EPA's Analysis of Pennsylvania's Attainment Plan for the Indiana Area**

Consistent with CAA requirements (*see* section 172), an attainment demonstration for an SO<sub>2</sub> nonattainment area must include a showing that the area will attain the 2010 SO<sub>2</sub> NAAQS as expeditiously as practicable. The demonstration must also meet the requirements of 40 CFR 51.112 and 40 CFR part 51, Appendix W, and include inventory data, modeling results, and emissions reductions analyses on which the state has based its projected attainment. EPA is proposing that the attainment plan submitted by Pennsylvania meets all applicable requirements of the CAA, and EPA is proposing to approve the plan submitted by Pennsylvania to ensure ongoing attainment in the Indiana Area.

#### **A. Pollutants Addressed**

Pennsylvania's SO<sub>2</sub> attainment plan evaluates SO<sub>2</sub> emissions for the Indiana Area comprised of

Indiana County and a portion of Armstrong County (Plumcreek Township, South Bend Township, and Elderton Borough) that is designated nonattainment for the 2010 SO<sub>2</sub> NAAQS. There are no precursors to consider for the SO<sub>2</sub> attainment plan. SO<sub>2</sub> is a pollutant that arises from direct emissions, and therefore concentrations are highest relatively close to the sources and much lower at greater distances due to dispersion. Thus, SO<sub>2</sub> concentration patterns resemble those of other directly emitted pollutants like lead, and differ from those of photochemically-formed (secondary) pollutants such as ozone. Pennsylvania's attainment plan appropriately considered SO<sub>2</sub> emissions for the Indiana Area.

### **B. Emissions Inventory Requirements**

States are required under section 172(c)(3) of the CAA to develop comprehensive, accurate and current emissions inventories of all sources of the relevant pollutant or pollutants in the nonattainment area. These inventories provide detailed accounting of all emissions and emissions sources by precursor or pollutant. In addition, inventories are used in air quality modeling to demonstrate that attainment of the NAAQS is as expeditious as practicable. The SO<sub>2</sub> Nonattainment Guidance provides that the emissions inventory should be consistent with the Air Emissions Reporting Requirements (AERR) at Subpart A to 40 CFR part 51.<sup>7</sup>

For the base year inventory of actual emissions, a “comprehensive, accurate and current” inventory can be represented by a year that contributed to the three-year design value used for the original nonattainment designation. The 2014 SO<sub>2</sub> Nonattainment Guidance notes that the base year inventory should include all sources of SO<sub>2</sub> in the nonattainment area as well as any sources located outside the nonattainment area which may affect attainment in the area.

---

<sup>7</sup> The AERR at Subpart A to 40 CFR part 51 cover overarching federal reporting requirements for the states to submit emissions inventories for criteria pollutants to EPA's Emissions Inventory System. EPA uses these submittals, along with other data sources, to build the National Emissions Inventory.



Pennsylvania appropriately elected to use 2011 as the base year as the designation of nonattainment was based on data from 2009-2011. Actual emissions from all the sources of SO<sub>2</sub> in the Indiana Area were reviewed and compiled for the base year emissions inventory requirement. The primary SO<sub>2</sub>-emitting point sources located within the Indiana Area are Keystone, Conemaugh, Homer City, and Seward, all coal-fired power plants. Keystone and Conemaugh each have two pulverized coal-fired (PC) boilers; Homer City has three coal-fired boilers; and Seward has two circulating fluidized bed (CFB) waste coal-fired boilers. More information about the emissions inventory for the Indiana Area (and analysis of the inventory) can be found in Pennsylvania's October 11, 2017, submittal as well as EPA's emissions inventory Technical Support Document (TSD), which can be found under Docket ID No. EPA-R03-OAR-2017-0615 and online at [www.regulations.gov](http://www.regulations.gov).

Table 1 shows the level of emissions, expressed in tons per year (tpy), in the Indiana Area for the 2011 base year by emissions source category. The point source category includes all sources within the Area.

**Table 1. 2011 Base Year SO<sub>2</sub> Emissions Inventory for the Indiana Area**

<b>Emission Source Category</b>	<b>SO<sub>2</sub> Emissions (tpy)</b>
Point	144,269.017
Area	555.610
Non-road	1.025
On-road	7.730
Total	144,833.382

EPA has evaluated Pennsylvania's 2011 base year emissions inventory for the Indiana Area and has made the preliminary determination that this inventory was developed in a manner consistent with EPA's guidance. Therefore, pursuant to section 172(c)(3), EPA is proposing to approve Pennsylvania's 2011 base year emissions inventory for the Indiana Area as it meets CAA

requirements.

The attainment demonstration also provides for a projected attainment year inventory that includes estimated emissions for all emission sources of SO<sub>2</sub> which are determined to impact the nonattainment area for the year in which the area is expected to attain the NAAQS.

Pennsylvania provided a 2018 projected emissions inventory for all known sources included in the 2011 base year inventory. The projected 2018 emissions are shown in Table 2.

Pennsylvania's submittal asserts that the SO<sub>2</sub> emissions are expected to decrease by approximately 75,340 tons, or 40%, by 2018 from the 2011 base year. More information about the projected emissions for the Indiana Area can be found in Pennsylvania's October 11, 2017, submittal which can be found under Docket ID No. EPA-R03-OAR-2017-0615 and online at [www.regulations.gov](http://www.regulations.gov).

**Table 2. 2018 Anticipated Actual Projected SO<sub>2</sub> Emission Inventory for the Indiana Area**

<b>Emission Source Category</b>	<b>SO<sub>2</sub> Emissions (tpy)</b>
Point	68,545.292
Area	944.688
Non-road	0.460
On-road	3.260
Total	69,493.700

### **C. Air Quality Modeling**

The SO<sub>2</sub> attainment demonstration provides air quality dispersion modeling analyses to demonstrate that control strategies chosen to reduce SO<sub>2</sub> source emissions will bring the Area into attainment by the statutory attainment date of October 4, 2018. The modeling analyses, conducted pursuant to recommendations outlined in Appendix W to 40 CFR part 51 (EPA's Modeling Guidance), are used to assess the control strategy for a nonattainment area and establish emission limits that will provide for attainment. The analysis requires five years of

meteorological data to simulate the dispersion of pollutant plumes from multiple point, area, or volume sources across the averaging times of interest. The modeling demonstration typically also relies on maximum allowable emissions from sources in the nonattainment area. Though the actual emissions are likely to be below the allowable emissions, sources have the ability to run at higher production rates or optimize controls such that emissions approach the allowable emissions limits. A modeling analysis that provides for attainment under all scenarios of operation for each source must therefore consider the worst case scenario of both the meteorology (e.g. predominant wind directions, stagnation, etc.) and the maximum allowable emissions.

PADEP provided two sets of modeling analyses: one analysis was developed in accordance with EPA's Modeling Guidance and the 2014 SO<sub>2</sub> Nonattainment Guidance, and was prepared using the default option in EPA's preferred dispersion modeling system, AERMOD; a second modeling analysis also utilized AERMOD but included a procedure called AERMOIST, an alternative model option which accounts for additional plume rise associated with the latent heat release of condensation due to moisture in a stack's plume. AERMOIST is currently not approved by EPA for regulatory use. A more detailed discussion of PADEP's modeling analysis for the Indiana Area can be found in Pennsylvania's October 11, 2017 submittal.

In addition to submitting the Indiana Area attainment plan to EPA on October 11, 2017, PADEP also submitted a request to EPA to review AERMOIST for use in the Indiana Area attainment plan. EPA has completed a review and determined that the AERMOIST procedure is not an appropriate option for use in the Indiana attainment plan for the following reasons: (1) There is no multi-monitor database of SO<sub>2</sub> monitoring data available for the four major sources of SO<sub>2</sub> in

the Indiana Area to conduct a source-specific statistical test to determine if AERMOIST provides a definitive improvement over the current regulatory default version of AERMOD; (2)

AERMOIST was universally applied to all the major sources in the Indiana Area regardless of whether the source plumes are actually saturated; and (3) there is a lack of supporting analysis for using relative humidity measurements in AERMOIST. For these reasons, EPA is rejecting the AERMOIST modeling analysis for the Indiana Area attainment plan. A detailed discussion of the deficiencies of the AERMOIST modeling analysis submitted for the Indiana Area can be found in EPA's AERMOIST modeling TSD for the Indiana which can be found under Docket ID No. EPA-R03-OAR-2017-0615 and available online at [www.regulations.gov](http://www.regulations.gov).

EPA has reviewed the default AERMOD analysis without the AERMOIST module submitted for the Indiana Area. The Indiana Area was divided into two separate modeling domains. Refer to EPA's Modeling TSD for the Indiana Area under Docket ID EPA-R03-OAR-2017-0615, available at [www.regulations.gov](http://www.regulations.gov) for EPA's review of the modeling domains. One domain included portions of Armstrong County which only addressed emissions from Keystone as a source. The other domain covered all of Indiana County and addressed emissions from all four sources in the nonattainment area. For both domains, background concentrations included impacts from non-modeled sources. Each separate model domain used its own (different) background concentration.

AERMOD was used to determine the critical emission values (CEV) for Conemaugh, Keystone, and Seward where the modeled 1-hour emission rates demonstrate compliance with the 2010 1-hour SO<sub>2</sub> NAAQS. The SO<sub>2</sub> emission rates for Homer City were based on the unit 1, unit 2, and

unit 3 combined mass-based SO<sub>2</sub> emission limits established in Plan Approval 32-00055H<sup>8</sup>, which authorized the installation of Novel Integrated Desulfurization (NID) systems, often referred to as Dry Flue Gas Desulphurization (FGD) systems on unit 1 and unit 2. This 1-hour SO<sub>2</sub> limit was based on air dispersion modeling that demonstrated compliance with the 2010 1-hour SO<sub>2</sub> NAAQS. The CEV rates used in the demonstration analysis for each of the four sources are summarized in the following table. The modeled emission rate in grams per second was converted to pounds per hour, which is the CEV limit.<sup>9</sup>

**Table 3. Critical Emission Values from Indiana, PA SIP Modeling Demonstration**

Facility	Modeled Rate (g/s)	CEV Limit (lbs/hr)
Conemaugh Generating Station	426.00	3,381.00
Homer City Generating Station, Unit 1	195.30	1,550.02
Homer City Generating Station, Unit 2	195.30	1,550.02
Homer City Generating Station, Unit 3	410.76	3,260.02
Keystone Generating Station	1,223.58	9,711.10
Seward Generating Station	640.00	5,079.44

Using the EPA conversion factor for the SO<sub>2</sub> NAAQS, the final 1-hour CEV model run design values for the Armstrong County portion (196.28 µg/m<sup>3</sup>) and the Indiana County portion (196.44 µg/m<sup>3</sup>) of the Indiana Area are less than 75 ppb.<sup>10</sup>

PADEP also provided air dispersion modeling with randomly reassigned emissions (RRE) to provide support for establishing longer term emission limits for Keystone and Seward that would provide for attainment of the NAAQS. EPA's 2014 SO<sub>2</sub> Nonattainment Guidance and Section I

<sup>8</sup> Plan Approval 32-00055H was issued on April 2, 2012, and modified on April 4, 2013, by the DEP.

<sup>9</sup> Based on the National Institute of Standards and Technology conversion: 1 pound = 453.59237 grams

<sup>10</sup> The SO<sub>2</sub> NAAQS level is expressed in ppb but AERMOD gives results in µg/m<sup>3</sup>. The conversion factor for SO<sub>2</sub> (at the standard conditions applied in the ambient SO<sub>2</sub> reference method) is 1ppb = approximately 2.619 µg/m<sup>3</sup>. See Pennsylvania's SO<sub>2</sub> Round 3 Designations Proposed Technical Support Document at [https://www.epa.gov/sites/production/files/2017-08/documents/35\\_pa\\_so2\\_rd3-final.pdf](https://www.epa.gov/sites/production/files/2017-08/documents/35_pa_so2_rd3-final.pdf).

of this proposed rulemaking provide an extensive discussion of EPA's rationale for concluding that emission limits that are appropriately set based on averaging times longer than 1 hour and up to as long as 30 days can be found to provide for attainment of the 2010 SO<sub>2</sub> NAAQS. When determining longer term emission limits, EPA's 2014 SO<sub>2</sub> Nonattainment Guidance states,

*"[T]he EPA is not precluding states from using other approaches to determine appropriate longer term average limits. However, the EPA would recommend in all cases that the analysis begin with determination of the critical emission values. A comparison of the 1-hour limit and the proposed longer term limit, in particular an assessment of whether the longer term average limit may be considered to be of comparable stringency to a 1-hour limit at the critical emission value, would be a critical element of a demonstration that any longer term average limits in the SIP will help provide adequate assurance that the plan will provide for attainment and maintenance of the 1-hour NAAQS."*

As discussed in the RACM/RACT section below, a 24-hour block average SO<sub>2</sub> emission limit for Keystone and a rolling 30-day average SO<sub>2</sub> emission limit for Seward were developed by conducting additional modeling with SO<sub>2</sub> emissions distributions representative of future operations which were derived for each facility by evaluating emissions for 2014-2016. For each facility, the emissions were randomly reassigned to develop 100 hourly emission files for use in 100 AERMOD simulations. These AERMOD simulations included CEV rates for three facilities, and hourly emissions for either Seward or Keystone. EPA believes that the distribution of emissions modeled in the 100 RRE methodology, which were based on historical operating levels and scaled to conform with the longer term limits, are a reasonable representation of an allowable emissions distribution for both Seward and Keystone. EPA believes that the 100 RRE analyses and model results for Keystone and Seward provide adequate assurance that the longer term emission limits for both of these facilities will result in attainment of the 2010 SO<sub>2</sub> NAAQS by the attainment date. A more detailed discussion of the RRE modeling is provided in EPA's

Modeling TSD for the Indiana Area under Docket ID EPA-R03-OAR-2017-0615, available at [www.regulations.gov](http://www.regulations.gov).

EPA has reviewed the modeling that Pennsylvania submitted to support the attainment demonstration for the Indiana Area and has determined that the default AERMOD modeling is consistent with CAA requirements, Appendix W to 40 CFR part 51, and EPA's 2014 SO<sub>2</sub> Guidance for SO<sub>2</sub> attainment demonstration modeling. Because the AERMOD analysis employing AERMOIST has not been approved by EPA for use in the attainment demonstration for the Indiana Area, EPA is not proposing to approve the modeling submitted by PADEP which employed AERMOIST. EPA is proposing to approve the default non-AERMOIST modeling, including the CEV and RRE simulations, provided in the attainment plan and EPA believes that the modeling reasonably demonstrates that the Indiana Area will attain the 2010 1-hour primary SO<sub>2</sub> NAAQS by the attainment date.

#### **D. RACM/RACT**

CAA section 172(c)(1) requires that each attainment plan provide for the implementation of all reasonably available control measures (i.e., RACM) as expeditiously as practicable and shall provide for attainment of the NAAQS. Section 172(c)(6) requires SIPs to contain enforceable emission limitations and control measures as may be necessary or appropriate to provide for NAAQS attainment. EPA interprets RACM, including RACT, under section 172, as measures that a state determines to be both reasonably available and contribute to attainment as expeditiously as practicable "for existing sources in the area."

Pennsylvania's October 11, 2017, submittal discusses federal and state measures that Pennsylvania asserts will provide emission reductions leading to attainment and maintenance of

the 2010 SO<sub>2</sub> NAAQS. With regards to state rules, Pennsylvania cites its low sulfur fuel rules, which were SIP-approved on July 10, 2014 (79 FR 39330). Pennsylvania's low sulfur fuel oil provisions apply to refineries, pipelines, terminals, retail outlet fuel storage facilities, commercial and industrial facilities, and facilities with units burning regulated fuel oil to produce electricity and domestic home heaters. These low sulfur fuel oil rules reduce the amount of sulfur in fuel oils used in combustion units, thereby reducing SO<sub>2</sub> emissions and the formation of sulfates that cause decreased visibility.

Pennsylvania's submittal discusses that the main SO<sub>2</sub> emitting sources at Conemaugh, Homer City, Keystone, and Seward are all equipped with FGD systems (wet limestone scrubbers, dry FGD, or in-furnace limestone injection systems) to reduce SO<sub>2</sub> emissions. Table 4 lists the control technology at each of the main SO<sub>2</sub> emitting sources at each facility.

**Table 4. Control Technology at the Four Major SO<sub>2</sub> Sources in the Indiana Area**

Facility	Unit	SO <sub>2</sub> Control	Control Installation Date
Conemaugh	031 – Main Boiler 1	Wet limestone scrubber	~1994
	031 – Main Boiler 2	Wet limestone scrubber	~1995
Homer City	031 – Boiler 1	Dry FGD	11/18/2015
	032 – Boiler 2	Dry FGD	5/23/2016
	033 – Boiler 3	Wet limestone scrubber	~2002
Keystone	031 – Boiler 1	Wet limestone scrubber	9/24/2009
	032 – Boiler 2	Wet limestone scrubber	11/22/2009
Seward	034 – CFB Boiler 1	In-furnace limestone injection	~2004
	035 – CFB Boiler 2	In-furnace limestone injection	~2004

With these controls installed, Pennsylvania's submittal discusses facility-specific control



measures, namely SO<sub>2</sub> emission limits for Conemaugh, Homer City, and Seward, and new SO<sub>2</sub> emission limits for Keystone. Keystone's new limits were developed through air dispersion modeling (default AERMOD) submitted by PADEP. The modeling analysis is discussed in section III.C. Air Quality Modeling of this proposed rulemaking and in the Modeling TSD. In order to ensure that the Indiana Area demonstrates attainment with the SO<sub>2</sub> NAAQS, PADEP asserts that the following combination of emission limits at the four facilities is sufficient for the Indiana Area to meet the SO<sub>2</sub> NAAQS and serve as RACM/RACT:

- Conemaugh's current SO<sub>2</sub> emission limits contained in the Title V Operating Permit (TVOP) 32-00059 because the emission limits for Conemaugh determined by the modeling as necessary for SO<sub>2</sub> attainment would be less stringent;
- Seward's current SO<sub>2</sub> emission limit in TVOP 32-00040 because the emission limits for Seward determined by the modeling as necessary for SO<sub>2</sub> attainment would be less stringent;
- Homer City's current SO<sub>2</sub> emission limits established in Plan Approval 32-00055H and Plan Approval 32-00055I; and
- A new, more stringent combined SO<sub>2</sub> emission limit for Keystone Unit 1 and Unit 2 of 9,600 pounds per hour (lbs/hr) block 24-hour average limit.

The emission limits for each of the SO<sub>2</sub>-emitting facilities are listed in Table 5.

**Table 5. SO<sub>2</sub> Emission Limits for Indiana Area Facilities**

<b>Facility</b>	<b>Source Description</b>	<b>Emission Limit (lbs/hr)</b>	<b>Averaging Period</b>
Conemaugh	Unit 1	1,656 (TVOP 32-00059)	3-hour block
	Unit 2		
Homer City	Unit 1	6,360 (Plan Approval 32-00055H) and limits specified in Plan Approval 32-00055I	1-hour block
	Unit 2		
	Unit 3		
Keystone	Unit 1	9,600 (New limit based on	24-hour block

	Unit 2	default AERMOD)	
Seward	Unit 1	3,038.4 (TVOP 32-00040)	30-day rolling
	Unit 2		

The emission limits for Conemaugh, Keystone and Seward have averaging times greater than 1-hour (ranging between three hours and 30 days). The default non-AERMOIST modeling analysis for the Indiana Area was used to establish CEVs for each facility. These (1-hour) CEVs were used for developing longer than 1-hour emission limits for Seward, Conemaugh, and Keystone. SO<sub>2</sub> limits at Conemaugh are set to a 3-hour block average. This average is roughly in line with the CEV modeled limit and the ratio from Appendix C in EPA's 2014 SO<sub>2</sub> Nonattainment Guidance. Keystone's limits were set to a 24-hour block average based on the 100 RRE simulation method discussed in Section III.C. Air Quality Modeling in this proposed rulemaking. A similar approach was used to establish a 30-day rolling average for Seward. Appendices C-1a and C-4 of Pennsylvania's October 11, 2017 SIP submittal provide a detailed explanation of the longer term emission limits. EPA believes the 100 RRE iteration approach used in Pennsylvania's submittal for determining longer term emission limits for Seward and Keystone can be used to demonstrate compliance with the 2010 SO<sub>2</sub> NAAQS. EPA's analysis of the default AERMOD modeling analysis using longer term emission limits shows, as discussed in detail in the Modeling TSD, that the emission limits listed in Table 5 are sufficient for the Indiana Area to attain the 1-hour SO<sub>2</sub> NAAQS. EPA's analysis of the longer term emission limits is discussed in more detail in the Modeling TSD for the Indiana Area under Docket ID EPA-R03-OAR-2017-0615, available at [www.regulations.gov](http://www.regulations.gov).

The emission limits or compliance parameters, such as contingency measures, or both, were established through Consent Orders and Agreements (COAs) and Consent Orders (COs) between

PADEP and the respective facility (*see* Appendices B-1 through B-4 of the October 11, 2017, SIP submittal). The collective emission limits and all related compliance parameters (i.e. the measures which include system audits, record-keeping and reporting, and corrective actions) have been proposed for incorporation into the SIP to make these changes permanently federally enforceable. PADEP affirms that the implementation of existing and new emission limits and corresponding compliance parameters for the four EGUs will enable the Indiana Area to attain and maintain the SO<sub>2</sub> NAAQS.

EPA is proposing to approve Pennsylvania's determination that the proposed SO<sub>2</sub> control strategy at Keystone, Conemaugh, Homer City, and Seward constitutes RACM/RACT for each SO<sub>2</sub> source in the Indiana Area based on the modeling analysis previously described. EPA finds Pennsylvania's control strategy for RACM/ RACT including emission limits and compliance parameters for the four EGUs will enable the Indiana Area to attain and maintain the NAAQS.

Furthermore, PADEP requests that the unredacted portions of the COAs, COs, Plan Approvals, and TVOP submitted by PADEP with the attainment plan be approved into the Pennsylvania SIP. Including the emission limits listed in the CO for Keystone, the Plan Approval for Homer City, and the TVOPs for Conemaugh and Seward (*see* Table 4), and corresponding compliance parameters found in the COAs and COs for Keystone, Conemaugh, Homer City, and Seward in the Pennsylvania SIP means that these measures will become permanent and enforceable SIP measures to meet the requirements of the CAA. EPA, therefore, proposes to approve Pennsylvania's October 11, 2017 SIP submittal as meeting the RACM/RACT requirements of section 172(c)(1) and the enforceable emission limitation and control measures requirements of section 172(c)(6) of the CAA.

## **E. RFP Plan**

Section 172(c)(2) of the CAA requires that an attainment plan includes a demonstration that shows reasonable further progress (i.e., RFP) for meeting air quality standards will be achieved through generally linear incremental improvement in air quality. Section 171(1) of the CAA defines RFP as “such annual incremental reductions in emissions of the relevant air pollutant as are required by this part (part D) or may reasonably be required by EPA for the purpose of ensuring attainment of the applicable NAAQS by the applicable attainment date.” As stated in the 1994 SO<sub>2</sub> Guidelines Document<sup>11</sup> and repeated in the 2014 SO<sub>2</sub> Nonattainment Guidance, EPA continues to believe that this definition is most appropriate for pollutants that are emitted from numerous and diverse sources, where the relationship between particular sources and ambient air quality are not directly quantified. In such cases, emissions reductions may be required from various types and locations of sources. The relationship between SO<sub>2</sub> and sources is much more defined, and usually there is a single step between pre-control nonattainment and post-control attainment. Therefore, EPA interpreted RFP for SO<sub>2</sub> as adherence to an ambitious compliance schedule in both the 1994 SO<sub>2</sub> Guideline Document and the 2014 SO<sub>2</sub> Nonattainment Guidance. EPA finds the control measures included in Pennsylvania’s submittal demonstrate attainment for the Area with the 2010 SO<sub>2</sub> NAAQS based on the modeling submitted by Pennsylvania. The permits and compliance orders submitted by Pennsylvania for inclusion in the SIP require these control measures and resulting emission reductions to be achieved as expeditiously as practicable. As a result, based on air quality modeling reviewed by EPA, this is projected to yield a sufficient reduction in SO<sub>2</sub> emissions from the major sources in

---

<sup>11</sup> SO<sub>2</sub> Guideline Document, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, EPA-452/R-94-008, February 1994. Located at: <http://www.epa.gov/ttn/oarpg/t1pgm.html>.

the Indiana Area resulting in modeled attainment of the SO<sub>2</sub> NAAQS for the Indiana Area. Therefore, EPA has determined that PADEP's SO<sub>2</sub> attainment plan for the Indiana Area fulfills the RFP requirements for the Indiana Area. EPA does not anticipate future nonattainment, or that the Area will not attain the NAAQS by the October 4, 2018 attainment date. EPA proposes to approve Pennsylvania's attainment plan with respect to the RFP requirements.

#### **F. Contingency Measures**

In accordance with section 172(c)(9) of the CAA, contingency measures are required as additional measures to be implemented in the event that an area fails to meet the RFP requirements or fails to attain the standard by its attainment date. These measures must be fully adopted rules or control measures that can be implemented quickly and without additional EPA or state action if the area fails to meet RFP requirements or fails to meet its attainment date, and should contain trigger mechanisms and an implementation schedule. However, SO<sub>2</sub> presents special considerations. As stated in the final 2010 SO<sub>2</sub> NAAQS promulgation on June 22, 2010 (75 FR 35520) and in the 2014 SO<sub>2</sub> Nonattainment Guidance, EPA concluded that because of the quantifiable relationship between SO<sub>2</sub> sources and control measures, it is appropriate that state agencies develop a comprehensive program to identify sources of violations of the SO<sub>2</sub> NAAQS and undertake an aggressive follow-up for compliance and enforcement.

The COAs or COs for Conemaugh, Homer City, Keystone, and Seward (*see* Appendices B-1 through B-4 of the October 11, 2017 submittal) each contain the following measures that are designed to keep the Indiana Area from triggering an exceedance or violation of the SO<sub>2</sub> NAAQS: (1) Upon execution of the COA or CO, if SO<sub>2</sub> emissions from the combined SO<sub>2</sub> emitting sources at the facility exceed 99% of the SO<sub>2</sub> emissions limit for the facility (listed in

Table 3), within 48 hours the facility is required to undertake a full system audit of the SO<sub>2</sub> emitting sources and submit a written report to PADEP within 15 days, and corrective actions shall be identified by PADEP as necessary; and (2) Upon execution of the COA or CO, if the Strongstown monitor (ID 42-063-0004) measures a 1-hour concentration exceeding 75 ppb, PADEP will notify the facility in the Area, and the facility in the Area is required to identify whether any of the SO<sub>2</sub>-emitting sources at the respective facility were running at the time of the exceedance, and within a reasonable time period leading up to the exceedance, not to exceed 24 hours. If any of the SO<sub>2</sub>-emitting sources were running at the time of the exceedance, the facility must then analyze the meteorological data on the day the daily exceedance occurred to ensure that the daily exceedance was not due to SO<sub>2</sub> emissions from the respective facility. The facility's findings must be submitted to PADEP within 30 days of being notified of the exceedance.

Additionally, if PADEP identifies a daily maximum SO<sub>2</sub> concentration exceeding 75 ppb at a PADEP-operated SO<sub>2</sub> ambient air quality monitor in the Indiana Area, within five days, PADEP will contact Conemaugh, Homer City, Keystone, and Seward to trigger the implementation of the daily exceedance report contingency measure described in section VIII.C. of the October 11, 2017 submittal. If necessary, section 4(27) of the Pennsylvania Air Pollution Control Act (APCA) authorizes PADEP to take any action it deems necessary or proper for the effective enforcement of APCA and the rules and regulations promulgated under APCA. Such actions include the issuance of orders and the assessment of civil penalties. A more detailed description of the contingency measures can be found in section VIII of the October 11, 2017 submittal as well as the COAs and COs included in the submittal and included for incorporation by reference into the SIP.

EPA is proposing to find that Pennsylvania’s October 11, 2017 submittal includes sufficient measures to expeditiously identify the source of any violation of the SO<sub>2</sub> NAAQS and for aggressive follow-up including enforcement measures within PADEP’s authority as necessary. Therefore, EPA proposes that the contingency measures submitted by Pennsylvania follow the 2014 SO<sub>2</sub> Nonattainment Guidance and meet the section 172(c)(9) requirements.

### **G. New Source Review<sup>12</sup>**

Section 172(c)(5) of the CAA requires that an attainment plan require permits for the construction and operation of new or modified major stationary sources in a nonattainment area. Pennsylvania has a fully implemented Nonattainment New Source Review (NNSR) program for criteria pollutants in 25 Pennsylvania Code Chapter 127, Subchapter E, which was approved into the Pennsylvania SIP on December 9, 1997 (62 FR 64722). On May 14, 2012 (77 FR 28261), EPA approved a SIP revision pertaining to the pre-construction permitting requirements of Pennsylvania’s NNSR program to update the regulations to meet EPA’s 2002 NSR reform regulations. EPA then approved an update to Pennsylvania’s NNSR regulations on July 13, 2012 (77 FR 41276). These rules provide for appropriate NSR as required by CAA sections 172(c)(5) and 173 and 40 CFR 51.165 for SO<sub>2</sub> sources undergoing construction or major modification in

---

<sup>12</sup> The CAA new source review (NSR) program is composed of three separate programs: Prevention of significant deterioration (PSD), NNSR, and Minor NSR. PSD is established in part C of title I of the CAA and applies in undesignated areas and in areas that meet the NAAQS—designated “attainment areas”—as well as areas where there is insufficient information to determine if the area meets the NAAQS—designated “unclassifiable areas.” The NNSR program is established in part D of title I of the CAA and applies in areas that are not in attainment of the NAAQS—designated “nonattainment areas.” The Minor NSR program addresses construction or modification activities that do not qualify as “major” and applies regardless of the designation of the area in which a source is located. Together, these programs are referred to as the NSR programs. Section 173 of the CAA lays out the NNSR program for preconstruction review of new major sources or major modifications to existing sources, as required by CAA section 172(c)(5). The programmatic elements for NNSR include, among other things, compliance with the lowest achievable emissions rate and the requirement to obtain emissions offsets.

the Indiana Area without need for modification of the approved rules. Therefore, EPA concludes that the Pennsylvania SIP meets the requirements of section 172(c)(5) for this Area.

#### **IV. EPA's Proposed Action**

EPA is proposing to approve Pennsylvania's SIP revision for the Indiana Area, as submitted through PADEP to EPA on October 11, 2017, for the purpose of demonstrating attainment of the 2010 1-hour SO<sub>2</sub> NAAQS. Specifically, EPA is proposing to approve the base year emissions inventory, a modeling demonstration of SO<sub>2</sub> attainment, an analysis of RACM/RACT, enforceable emission limitations and control measures, a RFP plan, and contingency measures for the Indiana Area and is proposing that the Pennsylvania SIP has met requirements for NSR for the 2010 1-hour SO<sub>2</sub> NAAQS. Additionally, EPA is proposing to approve into the Pennsylvania SIP specific SO<sub>2</sub> emission limits, compliance parameters, and contingency measures established for the SO<sub>2</sub> sources impacting the Indiana Area.

EPA has determined that Pennsylvania's SO<sub>2</sub> attainment plan for the 2010 1-hour SO<sub>2</sub> NAAQS for Indiana County meets the applicable requirements of the CAA. Thus, EPA is proposing to approve Pennsylvania's attainment plan for the Indiana Area as submitted on October 11, 2017. EPA's analysis for this proposed action is discussed in Section III of this proposed rulemaking. EPA is soliciting public comments on the issues discussed in this document. These comments will be considered before taking final action. Final approval of this SIP submittal will remove EPA's duty to promulgate and implement a FIP under CAA section 110(c).

#### **V. Incorporation by Reference**

In this proposed rule, EPA is proposing to include in a final EPA rule regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, EPA is



proposing to incorporate by reference the portions of the COAs or COs entered between Pennsylvania and Conemaugh, Homer City, Keystone, and Seward that are not redacted, as well as the unredacted portions of the TVOPs or Plan Approval included in the October 11, 2017 submittal. These include emission limits and associated compliance parameters (i.e. the measures which include system audits, record-keeping and reporting, and corrective actions). EPA has made, and will continue to make, these materials generally available through <http://www.regulations.gov> and at the EPA Region III Office (please contact the person identified in the “For Further Information Contact” section of this proposed rulemaking for more information).

## **VI. Statutory and Executive Order Reviews**

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA’s role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely approves state law as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- is not a “significant regulatory action” subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866;
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);

- is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this proposed rule, concerning the SO<sub>2</sub> attainment plan for the Indiana nonattainment area in Pennsylvania, does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

**List of Subjects in 40 CFR Part 52**

Environmental protection, Air pollution control, Incorporation by reference, Reporting and recordkeeping requirements, Sulfur oxides.

**Authority:** 42 U.S.C. 7401 et seq.

Dated: June 27, 2018.

Cecil Rodrigues,  
Acting Regional Administrator,  
Region III.

[FR Doc. 2018-14947 Filed: 7/12/2018 8:45 am; Publication Date: 7/13/2018]